Claims

1. A pharmaceutical or veterinary vaccine for eliciting an antitumor immune response to prostate tumors in a subject which comprises an active ingredient selected from the group consisting of

at least one antigen over-represented in the prostate gland or an immunologically effective portion thereof with the proviso that said antigen is other than human prostate specific antigen (PSA) produced in human cells;

an expression system capable of generating *in situ* an antigen over-represented on the prostate gland with respect to other tissues or an immunologically effective portion thereof;

naked DNA encoding said antigen or portion; and

an antiidiotypic antibody or fragment thereof which mimics said antigen.

2. The vaccine of claim 1 wherein said antigen is selected from the group consisting of PSA, PSMA and PAP.

3. The vaccine of claim 1 wherein said antigen is a protein which comprises an amino acid sequence over-represented in the prostate gland or an immunologically effective portion thereof and heterologous amino acid sequence.

4. The vaccine of claim 1 wherein the antigen is encapsulated in a liposome or coupled to a liposome and

wherein said liposomes optionally contain an adjuvant or are precipitated with alum.

5. The vaccine of claim 1 which further includes at least one adjuvant capable of enhancing said antitumor immune response.

6. The vaccine of claim 5 wherein said adjuvant is selected from the group consisting of Freund's complete adjuvant; alum; lipid A; monophosphoryl lipid A; *Bacillus Calmette-Guerin* (BCG) or other bacteria polysaccharides; saponins; detoxified endotoxin (DETOX); muramyl tripeptide or muramyl dipeptide or their derivatives; SAF1; lymphokines; cytokines; colony stimulating factors; nonionic block copolymers; and immune stimulating complexes (ISCOMS).

7. The vaccine of claim 1 wherein said active ingredient consists essentially of DNA comprising a nucleotide sequence encoding said antigen or portion thereof.

8. The vaccine of claim 1 wherein said active ingredient consists essentially of a living expression vector for said antigen or portion thereof.

9. The vaccine of claim 1 which comprises as active ingredient

at least one antigen over-represented on the prostate gland with respect to other tissues or an immunologically effective portion thereof with the proviso

that said antigen is other than human prostate specific antigen (PSA) produced in human cells.

10. The vaccine of claim 9 which comprises as active ingredient

at least one antigen wherein said antigen is a protein which comprises an amino acid sequence over-represented on the prostate gland with respect to other tissues or an immunologically effective portion thereof and heterologous amino acid sequence.

11. A method to induce an antitumor immune response in a potential or actual prostate tumor-bearing subject which method comprises administering to said subject the vaccine of claim 1.

12. The method of claim 11 wherein said subject is afflicted with metastatic prostate cancer; and/or wherein said subject has been surgically treated to excise said tumor but is at risk for recurrence and wherein said subject is optionally in a "neoadjuvant" setting prior to surgical excision of said prostate tumor; or

wherein said subject is a potential prostate tumor-bearing subject at risk for said tumor.

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